IN THE CLAIMS

This listing of the claim will replace all prior versions and listings of claim in the present application.

Listing of Claims

1. (currently amended)A storage system that is connected to a computer and another storage system including a first storage device, the storage system provides a logical volume which corresponds to a storage device in the storage system or the another storage system transparent from the computer, the storage system comprising:

a first control section that is connected to the computer;

a second control section that includes a second storage device that stores data to be used by the computer and a cache memory, and that temporarily stores data from the first control section before storing the data in the second storage device;

a third control section that is connected to the another storage system which includes another cache memory for temporarily storing data before storing the data in the first storage device; and

an internal network that mutually connects the first control section, the second control section and the third control section,

wherein the first control section receives from the computer a first input/output request having first identification information indicative of the logical volume to be accessed, and selects one of the second control section or the third control section based on the first identification information, and sends a second input/output request corresponding to the first input/output request to the second control section or the third control section~~.~~, and

wherein the first control section upon receipt of the first input/output request judges whether a target logical volume to be accessed identified by the first identification information is correlated to the second storage device or correlated to the first storage device and selects an appropriate access destination to the second control section or the third control section based on the judgment.

2. (previously presented) A storage system according to claim 1, wherein the first identification information is correlated to the second storage device, and the first control section converts the first input/output request to the second input/output request having identification information of the second control section, and transmits the second input/output request to the second control section.

3. (previously presented) A storage system according to claim 1, wherein the first identification information is correlated to the first storage device, and the first control section selects one of the second control section and the third control section to which the second input/output request is transmitted.

4. (previously presented) A storage system according to claim 3, wherein the first control section transmits the second input/output request having the identification information of the second control section to the second control section when a processing concerning the first input/output request is executed by the second control section.

5. (previously presented) A storage system according to claim 4, wherein the second control section receives the second input/output request, converts the second input/output request to a third input/output request having identification information of the first storage system, and transmits the third input/output request to the third control section.

6. (previously presented) A storage system according to claim 3, wherein the first control section transmits the second input/output request having identification information of the third control section to the third control section, when a processing concerning the first input/output request is not executed by the second control section.

7. (previously presented) A storage system according to claim 3, wherein the first control section transmits the second input/output request having identification information of the second control section to the second control section, when a processing concerning the first storage device is executed by the second control section.

8. (previously presented) A storage system according to claim 3, wherein the first control section transmits the second input/output request having identification information of the third control section to the third control section, when a processing concerning the first storage device is not executed by the second control section.

9. (previously presented) A storage system according to claim 3, further comprising:

a management adaptor that manages the first control section, the second control section and the third control section,

wherein the management adaptor manages identification information of a storage device correlated to the first identification information.

10. (previously presented) A storage system according to claim 9, wherein the management adaptor manages identification information of the first storage device and identification information of the second control section being correlated to the first identification information, and the first control section converts the first input/output request to the second input/output request having identification information of the second control section, and transmits the second input/output to the second control section.

11. (currently amended)A storage system that is connected to a computer and another storage system including a first storage device, the storage system provides a logical volume which corresponds to a storage device in the storage system or the another storage system transparent from the computer, the storage system comprising:

a first control section that is connected to the computer;

a second control section that includes a second storage device that stores data to be used by the computer and a cache memory, and that temporarily stores data from the first control section before storing in the

second storage device which includes another cache memory for temporarily storing data before storing the data in the first storage device;

a third control section that is connected to the another storage system which includes another cache memory for temporarily storing data before storing the data in the first storage device; and

an internal network that mutually connects the first control section, the second control section and the third control section,

wherein the first control section receives from the computer an input/output request to the first storage device, checks that the access path of the first storage device is a first path defined by the internal network and the third control section or a second path defined by the internal network, the second control section and third control section, and selects a first or second path, via which the input/output request is transmitted to the first storage system~~.~~, and

wherein the first control section upon receipt of the first input/output request judges whether a target logical volume to be accessed identified by the first identification information is correlated to the second storage device or correlated to the first storage device and selects an appropriate access destination to the second control section or the third control section based on the judgment.

12. (previously presented) A storage system according to claim 11, further comprising:

a management adaptor that manages the first control section, the second control section and the third control section, and is connected to the internal network,

wherein, when the third control section is connected to the another storage system, the management adaptor sets to transmit to the another storage system an input/output request to the first storage device via one of the first path or the second path.

13. (previously presented) A storage system according to claim 12, wherein the management adaptor transmits an input/output request to the first storage system via the second path, when a processing concerning the first storage device is executed by the second control section.

14. (previously presented) A storage system according to claim 12, wherein the management adaptor sets to change a path for transmitting an input/output request to the first storage device to the first storage system.

15. (previously presented) A storage system according to claim 12, wherein the management adaptor sets to change a path that is used to transmit an input/output request to the first storage device from the second path to the first path, when a processing concerning the first storage device is not executed by the second control section.

16. (currently amended)A second storage system that is connected to a computer and a first storage system including a first storage device, the second storage system comprising:

a first control section that is connected to the computer;

a second control section that includes a second storage device and a cache memory;

a third control section that is connected to the first storage system;

an internal network that mutually connects the first control section, the second control section and the third control section,

wherein the first control section receives from the computer an input/output request to the first storage device, and the first control section selects if the input/output request is transmitted to the first storage system via a first path defined by the internal network and the third control section, or if the input/output request is transmitted to the first storage system via a second path defined by the internal network, the second control section and the third control section;~~, and~~

wherein the first control section upon receipt of the first input/output request judges whether a target logical volume to be accessed identified by the first identification information is correlated to the second storage device or correlated to the first storage device and selects an appropriate access destination to the second control section or the third control section based on the judgment,

a management adaptor that manages the first control section, the second control section and the third control section, and is connected to the internal network,

wherein, when the third control section is connected to the first storage system, the management adaptor sets to transmit to the first storage system an input/output request to the first storage device via one of the first path or the second path,

wherein, when the management adaptor sets to change a path that is used to transmit an input/output request to the first storage device from the second path to the first path,

wherein the second control section controls to store data, that is stored in the cache memory and is to be stored in the first storage device in the first storage device, so that a storage region on the cache memory is released, and

wherein after the storage region on the cache memory is released, the management adaptor changes the path that is used to transmit an input/output request to the first storage system.

17. (previously presented) A storage system according to claim 16, wherein, when the management adaptor sets to change a path that is used to transmit an input/output request to the first storage device from the second path to the first path, and

wherein in a first state where data to be stored in the first storage device is stored in the cache memory, the first control section transmits an input/output request to the data to the second control section, and in a state other than the first state, the first control section transmits the input/output request to the first storage device via the third control section.

18. (previously presented) A storage system according to claim 12, wherein, when a processing concerning the first storage device needs to be executed by the second control section, the management adaptor sets to change a path that is used to transmit an input/output request to the first storage system from the first path to the second path.

19. (currently amended)A method for connecting a storage system that is connected to a computer to another storage system including a first storage device, the storage system provides a logical volume which corresponds to a storage device in the storage system or the another storage system transparent from the computer, the storage system including a first control section connected to the computer, a second control section having a storage device that stores data to be used by the computer and a cache memory, and temporarily stores data from the first control section before storing in the second storage device, a third control section that can be connected to the another storage system which includes another cache memory for temporarily storing data before storing the data in the first storage device, a management adaptor that manages the first control section, the second control section and the third control section, and an internal network that mutually connects the first control section, the second control section, the third control section and the management adaptor, the method comprising the steps of:

connecting the another storage system to the third control section;

receiving by the first control section from the computer an input/output request to data stored in a storage device in the another storage system; and

setting by the management adaptor to transmit the input/output request to the another storage system via one of a first path defined by the internal network and the third control section, and a second path defined by the internal network, the second control section and the third control section~~.~~, and

wherein the first control section upon receipt of the first input/output request judges whether a target logical volume to be accessed identified by the first identification information is correlated to the second storage device or correlated to the first storage device and selects an appropriate access destination to the second control section or the third control section based on the judgment.

20. (previously presented) A method according to claim 19, wherein the management adaptor is connected to a management device via a network, further comprising the steps of:

receiving by the management adaptor from the management device a change instruction to change a connection path; and

changing by the management adaptor a setting based on the change instruction to change a path that is used to transmit an input/output request to data stored in a storage device in the another storage system.